Space Weather Forecast

Issued on Monday, 22 November 2021 at 13:24 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

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Space Weather Forecast Headline: No significant activity.

Analysis of Space Weather Activity over past 24 hours

Solar Activity: Solar activity was very low over the last 24 hours, with no significant X-ray flare activity observed. There are two active sunspot regions on the Earth facing side of the sun, both small, magnetically simple and stable.
No Earth-directed Coronal Mass Ejections (CMEs) have been observed in the available imagery.

Solar Wind / Geomagnetic Activity: The solar wind remained characteristic of connection to a fast stream of solar wind. Solar wind speeds were elevated to strong, peaking at 670 km/s at 21/1336 UTC. They have then generally declined through the period to around 560 km/s. The interplanetary magnetic field strength of the solar wind was weak, with no significant deflections in the important north-south component. Resultant geomagnetic activity was Quiet to Unsettled (Kp1-3).

Energetic Particles / Solar Radiation: No solar radiation storms were observed.

Four-Day Space Weather Forecast Summary

Solar Activity: Solar activity is expected to be very low, with only a daily 5% slight chance of common-class flares due to the two small and simple sunspots on the Earth-facing side of the sun.

Solar Wind / Geomagnetic Activity: There are no Earth-directed CMEs in the current forecast. Over the next couple of days Earth's interaction with a stream of fast wind is expected to wane and geomagnetic activity is to decrease from Quiet to Unsettled, with periods of Active, to become predominantly Quiet. However, further enhancement in the solar wind is likely later in the forecast period and activity is likely to become Unsettled again, with a chance of Active intervals and a slight chance of a Minor Geomagnetic Storm.

Energetic Particles / Solar Radiation: No solar radiation storms are expected.

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

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Met Office

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Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	5	1	5	10
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	No	1	1	1	1
Very Active	R3 to R5 X	No	1	1	1	1

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	1	1	1	1
Very Active	≥ S3 *	No	1	1	1	1

* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)

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